

Mineral Industry Surveys

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SULFUR IN OCTOBER 2006

During the month, production of recovered elemental sulfur was 718,000 metric tons (t), according to the U.S. Geological Survey. October 2006 production was 2% higher than that of September 2006 and 17% higher than that of October 2005. Shipments were 5% lower than those of September 2006. Producers' ending stocks for October 2006 were 196,000 t.

Sulfur production at petroleum refineries has recovered to levels comparable to those seen before two major hurricanes struck the Gulf Coast in August and September 2005. Extensive renovation and upgrading continued at BP p.l.c.'s Texas City, TX, refinery, one of the largest in the country. Full resumption of sulfur recovery is not expected before the fourth quarter of 2007 (North American Sulphur Review, 2006). Sulfur recovery at natural gas processing plants seems to have stabilized at an average of about 120,000 metric tons per month, around 30% less than was the average before a large operation in Wyoming began reinjecting acid gases late last year. Sulfur production from petroleum refineries is expected to recover to pre-

hurricane levels for 2007, but production from natural gas operations is expected to remain at the new, lower average.

Import and export data for October 2006 were not available at the time of publication and will be published in the Sulfur in November 2006 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for September 2006 were estimated to be 245,000 t; exports were 15,000 t. Imports of sulfuric acid for August 2006 were 201,000 t; exports were 11,000 t.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

Reference Cited

North American Sulphur Review, 2006, Review & Outlook: North American Sulphur Review, v. 17, no. 12, December, p. 4.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks ³
	Petroleum ²	Natural gas	Total		
2005:					
January-December	6,940	1,810	8,750	8,720	XX
January-October	5,790	1,560	7,350	7,330	XX
October	478	136	614	614	158
November	555	129	683	671	167
December	593	120	714	721	156
2006:					
January	572	114	686	677	160
February	513	114	627	632	151
March	544	112	656	660	142
April	546	120	667	648	162
May	591	119	711	701	164
June	586	97	683	694	149
July	600	120	720	695	172
August	618	121	738	722	184
September	598	109	707	723	168
October ^p	594	124	718	689	196
Total	5,760	1,150	6,910	6,850	XX

^pPreliminary. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes a small quantity from coking operations.

³Subject to inventory adjustments.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Venezuela		Total, all countries ²	
	Quantity ^e	Value ³	Quantity	Value ³	Quantity ^e	Value ³	Quantity ^e	Value ³
2005:								
January-December	1,970	33,500	427	18,600	409	16,800	2,820	70,500
January-September	1,420	21,900	320	13,700	311	12,200	2,100	48,500
September	160	3,020	39	1,600	41	1,670	241	6,360
October	185	3,570	44	1,900	37	1,620	227	7,770
November	180	3,680	29	1,130	20	819	233	5,710
December	185	4,360	34	1,890	41	2,180	261	8,500
2006:								
January	165	4,190	58	2,520	37	1,680	260	8,460
February	150	3,910	43	1,810	40	1,650	233	7,450
March	165	3,970	44	2,010	34	1,580	243	7,690
April	205	4,290	29	1,420	30	1,410	264	7,230
May	210	3,260	29	1,390	19	925	259	5,820
June	205	2,550	44	1,970	29	1,270	281	6,120
July	165 ^r	2,370	43	1,900	33	1,370	241 ^r	5,730
August	165 ^r	2,330	43	1,770	20	824	229 ^r	4,940
September	160	1,970	43	1,730	31	1,240	245	4,970
Total	1,590	28,800	377	16,500	274	11,900	2,260	58,400

^eEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentaSul North America Sulphur Service.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Mexico			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2005:									
January-December	2,000	656	80,700	398	129	7,920	2,660	871	102,000
January-September	1,520	497	59,000	272	88	5,010	2,000	654	74,200
September	169	55	6,890	35	11	626	241	79	8,260
October	178	58	7,880	60	20	1,730	253	83	11,600
November	138	45	5,910	38	12	674	181	59	6,820
December	172	56	7,910	28	9	504	229	75	9,640
2006:									
January	194	63	7,800	16	5	444	244	80	9,030
February	161	53	6,550	23	7	416	201	66	7,670
March	198	65	7,760	19	6	454	255	83	9,050
April	207	68	7,910	16	5	400	234	77	9,100
May	207	68	7,840	13	4	307	229	75	8,320
June	189	62	7,030	2	1	56	208	68	7,860
July	181	59	6,290	7	2	157	228	74	6,900
August	212	69	7,330	22	7	624	245	80	8,070
September	178	58	6,850	23	8	557	201	66	7,490
Total	1,730	565	65,400	141	46	3,420	2,040	668	73,500

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value ²	Quantity	Sulfur content	Value ²
2005:					
January-December	683	55,900	348	108	29,500
January-September	478	40,100	272	84	22,900
September	42	3,470	26	8	2,810
October	104	7,070	32	10	3,020
November	14	2,940	7	2	992
December	87	5,790	37	12	2,560
2006:					
January	55	4,430	14	4	1,400
February	15	1,900	38	12	2,400
March	68	4,710	23	8	2,000
April	11	1,270	19	6	1,600
May	19	2,090	17	5	1,400
June	141	8,790	11	4	1,370
July	79	4,540	18	6	2,030
August	15	2,380	37	12	2,280
September	15	1,540	11	4	1,320
Total	418	31,600	187	61	15,800

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports ^c	Consumption
2005:			
January-December	8,040	2,820	10,900
January-September	6,240	2,100	8,340
September	592	241	833
October	510	227	737
November	657	233	890
December	634	261	895
2006:			
January	622	260	882
February	617	233	850
March	592	243	835
April	637	264	901
May	682	259	941
June	553	281	834
July	616	241 ^r	857 ^r
August	707	229 ^r	936 ^r
September	708	245	953
Total	5,730	2,260	7,990

^cEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT¹

(Thousand metric tons)

District and source	October 2006 ^p		September 2006		January - October 2006 ²		January - October 2005 ²	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	18	17	13 ^r	14	192	192	206 ^r	206 ^r
Natural gas	8	8	8	8	27	27	16 ^r	16 ^r
Total	26	24	21 ^r	21 ^r	219	219	222 ^r	221 ^r
PAD 2:								
Petroleum and coke	85	84	92 ^r	91	861	864	873 ^r	875 ^r
Natural gas	4	4	3	3	33	33	30 ^r	30 ^r
Total	88	88	95 ^r	94	894	897	903 ^r	905 ^r
PAD 3: ³								
Petroleum and coke	370	349	368	388	3,570	3,540	3,590	3,600
Natural gas	40	39	34 ^r	34	375	374	414	417
Total	410	388	402 ^r	422	3,950	3,910	4,000	4,020
PAD 4 and 5: ⁴								
Petroleum and coke	121	117	125	120	1,140	1,100	1,120	1,080
Natural gas	73	72	64	65	716	719	1,100	1,100
California	103	99	107 ^r	103	944	909	893 ^r	855 ^r
Total	194	189	189	185	1,850	1,820	2,220 ^r	2,180
Grand total	718	689	707	723	6,910	6,850	7,350 ^r	7,330 ^r

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revisions.

³Includes the U.S. Virgin Islands.

⁴Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2006			2005
	October	September	Total	total
Production	8.45 ^p	8.60	8.30 ^r	8.75
Shipments	8.11 ^p	8.80	8.22 ^r	8.72
Exports of sulfur	NA	0.18	0.56	0.58
Imports of sulfur:				
Canada	NA	1.95 ^e	2.13 ^e	1.97 ^e
Mexico	NA	0.52	0.50	0.45
Venezuela	NA	0.38 ^e	0.37 ^e	0.41 ^e
Total ²	NA	2.98 ^e	3.02 ^e	2.79 ^e
Exports of H ₂ SO ₄	NA	0.13	0.25	0.31
Imports of H ₂ SO ₄ :				
Canada	NA	2.17	2.31	1.87
Mexico	NA	0.28	0.19	0.40
Total ²	NA	2.45	2.73	2.66
Consumption: ³				
Domestic sources	NA	8.61	7.67	8.06
Imports	NA	2.98 ^e	3.01 ^e	2.79 ^e
Total	NA	11.60	10.68	10.85
Sulfur export values ⁴	NA	103	76	84
Sulfur import values: ⁴				
Canada	NA	12	18	17
Mexico	NA	40	44	41
Venezuela	NA	40	44	41
Average ²	NA	20	26	25
H ₂ SO ₄ export values ⁴	NA	120	84	86
H ₂ SO ₄ import values: ⁴				
Canada	NA	38	38	40
Mexico	NA	24	24	20
Average ²	NA	37	36	37

^eEstimated. ^pPreliminary. ^rRevised. NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other countries not listed.

³Because September trade data were not available, September consumption was not determined.

⁴Average value per ton for most recent data available.